

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Serial No: 10/613,002
Filed: July 2, 2003
Title: DISPERSE AZO DYE MIXTURES
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Art Unit: 1714
Examiner: Patrick Dennis Niland

Hon. Commissioner of Patents & Trademarks
Washington, D. C. 20 231

DECLARATION (Rule 132)

Sir:

I, Adrian Murgatroyd from Rossendale, UK, declare: I am a Chemical Engineer and a citizen of the United Kingdom, residing at Wed 9, 65929 Frankfurt am Main, Federal Republic of Germany.

Since completing my studies at the University of Exeter in the United Kingdom, I have been employed as a textile technician by Tootal Limited, Manchester, UK and as a development manager by ICI (subsequently Zeneca), Manchester, UK. The textile activities of Zeneca were taken over by BASF Aktiengesellschaft, Ludwigshafen, Germany, where I worked as a product manager and as a development manager. In October 2000 BASF transferred its activities in the textile dyestuff field to DyStar and since then I have been employed by DyStar Textilfarben GmbH & Co. Deutschland KG in Frankfurt, Germany as a product development manager for disperse dyes.

I have had adequate professional experience in the field to which patent application Serial No. 10/613,002, filed July 2, 2003, pertains and which was filed by Manfred Hoppe, Kiyoshi Himeno and Ryouichi Sekioka..

I further declare:

I have reviewed the Office Action issued in connection with Application No. 10/613,002 and mailed on April 28, 2009, in particular its pages 6 and 7 on which several technical issues in connection with the comparison tests described in my said Declarations are raised. I comment

on these issues as follows:

A. According to the Office Action, my Declarations “are not commensurate in scope with the instant claims and the cited prior art because the exemplified dye mixtures possess certain pH, leveling agent, and dispersing agent not required of the instant claims nor the prior art”.

1. When conducting the comparison tests described in my Declarations, my general approach was to use conditions typical of those encountered in industry which ensure reliable results. This involves inter alia the use of dispersing and leveling agents as well as the adherence of a prescribed pH value.

2. Disperse dyes used in textile industry are insoluble or sparingly soluble in water but are applied to the textile material from an aqueous phase. For normal industrial application, they must be applied as an aqueous dispersion which contains the dye dispersed in form of particles of small size. A stable dispersion is achieved by milling the crude disperse dye in the presence of dispersing agents. Accordingly, standard industrial dyeing processes involving disperse dyes must always be performed in the presence of dispersing agents.

3. To achieve levelness is one of the basic requirements in dyeing. Because ensuring levelness is frequently in opposition to other requirements, like high exhaustion, short dyeing time etc., standard industrial dyeing processes involving disperse dyes are normally performed in the presence of leveling agents. For the standard laboratory dyeing process used, a level result is important in obtaining reliable reflectance measurements.

4. The dyeing process described in my Declarations has been performed at pH 4.5 which is typical of industry practice and compatible with existing commercial disperse dyes.

5. The comparisons described in my Declarations have been performed at identical dyeing conditions and the results therefore solely reflect the different properties of the dyestuffs and dyestuff mixtures, respectively, tested. The results would not have been different if other reasonable dyeing conditions would have been used. However, dyeing of disperse dyes without using dispersing agents and leveling agents and without control of pH value is not reasonable and will not provide a reliable dyeing result.

B. According to the Office Action, my Declarations do “not identify the polyester used”.

1. I declare that a woven polyester 75 denier / 144 filaments (i.e. 0.52 denier per filament) obtained from industrial source was used. I further declare that similar differences of the compared dyestuffs and dyestuff mixtures, respectively, would have been found if a different polyester quality as used in industry would have been used.

C. The Office Action states: "Perhaps the unsaturated groups of the second dye may react with unsaturated groups of polyester".

1. I assume the Office Action refers to Dyestuff 2 which comprises two allyl groups of the formula $-\text{CH}_2\text{CH}=\text{CH}_2$. I declare that polyester dyeing is generally accepted to be a physical rather than a chemical reaction. Polyester fiber does not have any functional groups to form covalent bond with dyes and in particular allyl groups are not able to chemically react with polyester under dyeing conditions. A reaction of the allyl groups of Dyestuff 2 of my Declaration "with unsaturated groups of polyester" is excluded.

D. The Office Action states: "The declarant does not specify what was done with sufficient specificity so that the examiner can determine if any differences in process steps are responsible for the alleged unexpected results".

1. I respectfully disagree. My Declarations describe the dyeing process used sufficiently detailed so as to allow a skilled person to repeat the comparisons and to verify my results. Further, all dyeings were obtained using the identical dyeing process and there are no differences in process steps. All results seen go back to the differences of the dyestuffs and dyestuff mixtures, respectively.

E. The Office Action states: "The examiner notes that none of the 4 declarations of record show the curve for mixture A".

1. I assume the examiner is referring to Dyestuff Mixture A comprising 5% by weight of Dyestuff I and 95% by weight of Dyestuff 2. I declare that the build-up curve of this mixture is shown in yellow on the build-up chart on page 3 of my respective Declaration. The build-up of Dyestuff Mixture A is superior to those of the individual dyestuffs I and II and reaches a significantly higher maximum depth of shade.

I further declare that I understand the contents of this Declaration, that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed at Frankfurt

This 14 day of July, 2009

.....*Adrian Murgatroyd*.....
(Adrian Murgatroyd)